



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/365,517	08/02/1999	HAMID K. AGHAJAN	M-7793-US	1904

32588 7590 10/01/2003
APPLIED MATERIALS, INC.
2881 SCOTT BLVD. M/S 2061
SANTA CLARA, CA 95050

EXAMINER

PATEL, JAYANTI K

ART UNIT	PAPER NUMBER
----------	--------------

2625

DATE MAILED: 10/01/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/365,517

Applicant(s)

AGHAJAN, HAMID K.

Examiner

Jayanti K. Patel

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's arguments filed July 7, 2003 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee et al. (US 5,808,735) in view of Mishima et al. (US 4,823,194).

Regarding claim 6 and 7, Lee discloses a system for characterizing defects on semiconductor wafers comprising: an image acquisition unit being operable to acquire first image and an associated second image (column 4, lines 44-57), the first and second images having a plurality of pixels (column 6, lines 21-25) with each pixel being defined by a location coordinate (column 5, lines 32-37) and gray level (column 2, lines 25-34).

Lee discloses memory for storing the image data (column 6, lines 45-50) without any specific details regarding plurality of memory locations and a processor to plot gray levels of pixels.

In the same field of endeavor, however, Mishima discloses a system for processing gray scale images comprising a plurality of memory locations storing the first and second image data (column 7, lines 34-44 and figure 5, element 54); a processor being operable to plot the gray levels of pixels corresponding to each image (column 5, lines 22-35 and figures 2a-2d).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plurality of memory locations and a processor to plot gray levels as taught by Mishima in the system of Lee because Mishima provides Lee with a gray level image processing system which can process gray scale images clearly at a high speed even if the original image has a complicated background. Additionally, the use of plurality of memory locations to store images and plotting gray levels of image pixels are routinely performed.

As to claims 1-5, the steps claimed as method is nothing more than restating the function of the specific components of the apparatus (including aligning the first image with a second image, video monitor and plotting a threshold window; see Lee, figure 2A, step 210, figure 1, element 60; and Mishima figure 6) as claimed above and therefore, it would have been obvious, considering the aforementioned rejection for the apparatus claims 6-7 above.

Other prior art cited

Art Unit: 2625

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ravid et al. (US 6,256,093) discloses an automatic defect classification system (figure 4).

Morrison et al. (US 5,033,096) discloses a system for determining position of a given feature of an article (figure 5).

Michael US 5,943,441) discloses an edge contour tracking system.

Yair et al. (US 6,512,849) discloses a system for finding objects in an image (figure 7).

Baker et al. (US 5,291,535) discloses a system for detecting solder defects on printed circuit boards.

Contact information

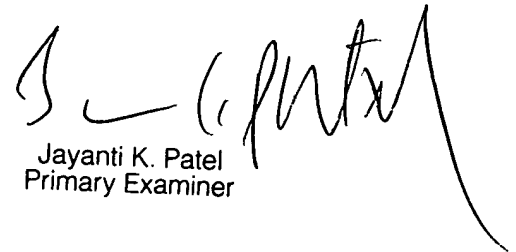
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jayanti K. Patel whose telephone number is (703) 308-7728. The examiner can normally be reached on Monday-Friday (7:00-4:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2625

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

JKP



Jayanti K. Patel
Primary Examiner

September 17, 2003